

WHAT IS CLAIMED IS:

Sub  
al

1. ~~A plasma display driving method wherein each~~  
frame comprises subfields; each of said subfields  
includes a reset period for performing an erase  
discharge to initialize a wall charge distribution in  
each cell, an address period for generating a wall  
charge distribution in accordance with display data,  
and a sustain discharge period for discharging in  
accordance with the wall charge distribution  
generated in the cell during said address period, to  
emit light; and

said reset period includes first and second erase  
discharge periods for performing erase discharges for  
cells having been turned on and not having been  
turned on, respectively.

2. A method according to claim 1, wherein a  
full-surface write discharge and a full-surface erase  
discharge are done during said reset period only in a  
specific subfield among the subfields in each frame,  
erase discharges for erasing wall charges accumulated  
in cells are done during said reset periods in the  
remaining subfields without performing said  
full-surface write discharges, and the erase  
discharges done separately in said first and second  
erase discharge periods are executed in the subfields  
except for said specific subfield.

3. A method according to claim 1, wherein the  
erase discharge in each said ~~second~~ erase discharge

period is achieved by applying to a first electrode a first erase pulse whose application voltage continuously changes with time in a positive direction, and applying to a second electrode a second erase pulse whose application voltage continuously changes with time in a negative direction.

Sub  
A2  
4. A method according to claim 3, wherein the pulse widths of said first and second erase pulses have time widths required to reach the ultimate voltages of said first and second erase pulses.

5. A method according to claim 3, wherein said first and second erase pulses have waveforms whose change rates per unit time of the application voltage change with time.

6. A method according to claim 3, wherein said first and second erase pulses have waveforms whose change rates per unit time of the application voltage are constant.

7. A method according to claim 3, wherein the potential difference between the ultimate voltages of said first and second erase pulses is around the discharge start voltage between said first and second electrodes and is smaller than said discharge start voltage.

Sub  
C1  
8. A method according to claim 7, wherein at least one of said ultimate voltages of said first and second erase pulses is variable.

Sub  
A3  
9. ~~A method according to claim 3, wherein the~~  
rise start timing of said first erase pulse is  
synchronized with or delayed from the fall start  
timing of said second erase pulse.

10. A plasma display driving apparatus for  
driving a plasma display panel in each of the  
subfields constituting one frame, each of said  
subfields including a reset period for performing an  
erase discharge to initialize a wall charge  
distribution in each cell, an address period for  
generating a wall charge distribution in accordance  
with display data, and a sustain discharge period for  
discharging in accordance with the wall charge  
distribution generated in the cell during said  
address period, to emit light, said apparatus  
comprising:

a controller for performing erase discharges for  
cells having been turned on and not having been  
turned on, in first and second erase discharge  
periods in said reset period, respectively.

11. An apparatus according to claim 10, wherein  
said controller performs a full-surface write  
discharge and a full-surface erase discharges during  
said reset period only in a specific subfield among  
the subfields in each frame, erase discharges for  
erasing wall charges accumulated in cells during said  
reset periods in the remaining subfields without  
performing said full-surface write discharges, and

executes the erase discharges done separately in said first and second erase discharge periods in the subfields except for said specific subfield.

12. An apparatus according to claim 10, wherein said controller performs the erase discharge for an OFF cell in each said second erase discharge period by applying to a first electrode a first erase pulse whose application voltage continuously changes with time in a positive direction, and applying to a second electrode a second erase pulse whose application voltage continuously changes with time in a negative direction.

Sub  
G4  
13. ~~An apparatus according to claim 12, wherein said controller applies, as said first and second erase pulses, pulse voltages having waveforms whose change rates per unit time of the application voltage change with time.~~

14. An apparatus according to claim 12, further comprising voltage setting unit for setting the potential difference between the ultimate voltages of said first and second erase pulses to be around the discharge start voltage between said first and second electrodes and to be smaller than said discharge start voltage.

15. An apparatus according to claim 14, wherein said voltage setting unit can change at least one of the ultimate voltages of said first and second erase pulses.

16. An apparatus according to claim 15, wherein said voltage setting unit comprises a first resistor in a pulse generation circuit for generating said first erase pulse and a second resistor in a pulse generation circuit for generating said second erase pulse, and at least one of said first and second resistors is variable.

17. An apparatus according to claim 16, wherein said first and second resistors have different resistance values.

18. An apparatus according to claim 12, wherein said controller synchronizes or delays the rise start timing of said first erase pulse with or from the fall start timing of said second erase pulse.